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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,918	09/28/2000	Andrzej Partyka	A. Partyka 12	7932

7590 10/01/2004

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EXAMINER	
MAIS, MARK A	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/671,918	PARTYKA, ANDRZEJ	
	Examiner	Art Unit	
	Mark A Mais	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2-4*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. Applicant is reminded that the later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

Information Disclosure Statement

2. The information disclosure statements (IDSs) submitted on September 19, 2002; September 23, 2002; July 23, 2003; and August 14, 2003, were filed after the mailing date of the Application on September 28, 2000. The submission is in compliance with the provisions of 37 CFR 1.56 and 1.97. Accordingly, the examiner considered the information disclosure statements.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. Claim 42 recites the limitation "said plurality of transmitter". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 25-38 and 40-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Schilling (USP 5,657,343).

7. With regard to claims 25, 27-28 and 30, 32-33 Schilling discloses a plurality of transmitters **[base-station transmitters, col. 6, lines 11-12]** and, each of which is for transmitting intermittently: (a) routine transmissions, at first time intervals **[synchronization channel can be multiplexed with the base-message data and sent out periodically, col. 6, lines 42-46]**, and (b) urgent transmissions, in response to urgency, at transmission opportunities at second time intervals **[periodic signal strength pilot signals, indicating signal power levels, from the master base-stations, which effects handoff (col. 12, lines 63-67)]**, wherein each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]** is for transmitting independently of any receiver **[remote-unit receiver, col. 6, lines 11-12]** for receiving any of

said transmissions and independently of any of said plurality of transmitters **[examiner interprets the independence from both the receiver and other transmitters as both (a) distance from either the remote-unit receiver and other base-stations, and (b) different assigned frequencies for hopping between the base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as the different assigned frequencies between base-stations (e.g., col. 9, line 65 to col. 10, line 14)]**, and

a receiver **[remote-unit receiver, col. 6, lines 11-12]** for holding, simultaneously for each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]**, data indicative of [(expected time) or (expected frequency) or (expected time & expected frequency)] of at least one future transmission opportunity **[the remote-unit receives multiple signal strength pilot signals, indicating signal power levels, from all the base-stations, and may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations use pseudo-random, table lookup for frequency selection, col. 5, lines 32-34) in order to prevent intercellular interference (col. 7, lines 8-15) <u>when</u> the remote-unit is given permission to access the new base-station. Thus, a new frequency-hopping pattern inherently means both time and frequency.]**.

8. With regard to claim 35, Schilling discloses a receiver comprising:

logic for holding **[fig. 2, logic/circuit diagram for remote-unit receiver; col. 7, line 35 to col. 8, line 6; remote-unit receiver, col. 6, lines 11-12]**, simultaneously for each plurality of transmission opportunities, data indicative of an expected time of at least one future transmission

opportunity, wherein each of said plurality of transmission opportunities is for a different one of a plurality of transmitters **[if the remote-unit receives the pilot signals, indicating power levels, from all the base-stations, it may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations use pseudo-random, table lookup for frequency selection, col. 5, lines 32-34) in order to prevent intercellular interference (col. 7, lines 8-15) when the remote-unit is given permission to access the new base-station. Thus, a new frequency-hopping pattern inherently means both time and frequency]**, and

wherein each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]** is for transmitting intermittently (a) routine transmissions, at time intervals **[synchronization channel can be multiplexed with the base-message data and sent out periodically, col. 6, lines 42-46]**, and (b) urgent transmissions, in response to urgency, at at least one of said transmission opportunities **[periodic signal strength pilot signals, indicating signal power levels, from the master base-stations, which effects handoff (col. 12, lines 63-67)]**, wherein each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]** is for transmitting independently of any receiver **[remote-unit receiver, col. 6, lines 11-12]** for receiving any of said transmissions and independently of any other of said plurality of transmitters **[examiner interprets the independence from both the receiver and other transmitters as both (a) distance from either the remote-unit receiver and other base-stations, and (b) different assigned frequencies for hopping between the master base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59),**

as well as the different assigned frequencies between other base-stations (e.g., col. 9, line 65 to col. 10, line 14)].

9. With regard to claims 42 and 46, Schilling discloses a plurality of transmitters, each of which comprises:

a circuit **[fig. 1, logic/circuit diagram for base-station transmitter; col. 6, line 17 to col. 7, line 34; base-station transmitters, col. 6, lines 11-12]** for transmitting intermittently: (a) routine transmissions, at first time intervals **[synchronization channel can be multiplexed with the base-message data and sent out periodically, col. 6, lines 42-46]**, and (b) urgent transmissions, in response to urgency, at transmission opportunities at second time intervals **[periodic signal strength pilot signals, indicating signal power levels, from the master base-stations, which effects handoff (col. 12, lines 63-67)]**, and

wherein each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]** is for transmitting independently of any receiver **[remote-unit receiver, col. 6, lines 11-12]** for receiving any of said transmissions and independently of any of said plurality of transmitters **[examiner interprets the independence from both the receiver and other transmitters as both (a) distance from either the remote-unit receiver and other base-stations, and (b) different assigned frequencies for hopping between the base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as the different assigned frequencies between base-stations (e.g., col. 9, line 65 to col. 10, line 14)]**.

10. With regard to claim 49, Schilling discloses a transmitter **[base-station transmitters, col. 6, lines 11-12]** comprising:

a circuit **[fig. 1, logic/circuit diagram for base-station transmitter; col. 6, line 17 to col. 7, line 34; base-station transmitters, col. 6, lines 11-12]** for transmitting intermittently at various transmission frequencies: (a) routine transmissions, at first time intervals **[synchronization channel can be multiplexed with the base-message data and sent out periodically, col. 6, lines 42-46]**, and (b) urgent transmissions, in response to urgency, at transmission opportunities at second time intervals **[periodic signal strength pilot signals, indicating signal power levels, from the master base-stations, which effects handoff (col. 12, lines 63-67)]**, and

logic **[fig. 1, logic/circuit diagram for base-station transmitter; col. 6, line 17 to col. 7, line 34; base-station transmitters, col. 6, lines 11-12]** for controlling frequency and time for said transmission opportunities and said routine transmissions independently **[fig. 1, FH controller 104, col. 7, lines 8-15, wherein, with frequency-hopping, assigning a new set of hop frequencies inherently means controlling the frequency and timing; the synchronization channel can be multiplexed with the base-message data and sent out periodically (col. 6, lines 42-46), while the periodic signal strength pilot signals from all the base-stations (which effect handoff, col. 12, lines 63-67) are sent independently from the master base-station's synchronization channel]** for any receiver **[remote-unit receiver, col. 6, lines 11-12]** for receiving any of said transmissions **[examiner further interprets the independence from both the receivers and the transmitters as both (a) distance between the remote-unit receiver and the base-stations, and (b) different assigned frequencies for**

hopping between the master base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as the different assigned frequencies between base-stations (e.g., col. 9, line 65 to col. 10, line 14)].

11. With regard to claims 26, 29, 31, 34, 43-44 and 50-51, Schilling discloses that transmission of said routine transmissions is controlled according to a first sequence, and frequency of said transmission opportunities is controlled according to a second sequence, and said first sequence is synchronized with said second sequence **[all base-stations are synchronized and the remote-units are synchronized to the base stations (col. 8, lines 7-9). Synchronization signals sent from the master base station to the remote-unit, and the periodic signal strength pilot signals sent from all the base-stations to the remote-unit, are therefore, synchronized]**.

12. With regard to claims 36, 38, and 40, Schilling discloses a receiver **[remote-unit receiver, col. 6, lines 11-12]** for holding, simultaneously for each of said plurality of transmitters **[base-station transmitter, col. 6, lines 11-12]**, data indicative of [(frequency) or (expected transmission frequency) or (expected time & expected transmission frequency)] of at least one future transmission opportunity **[if the remote-unit receives the signal strength pilot signals, indicating power levels, from all the base-stations, it may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations use pseudo-random, table lookup for frequency selection, col. 5, lines 32-34)**

in order to prevent intercellular interference (col. 7, lines 8-15) when the remote-unit is given permission to access the new base-station. Thus, a new frequency-hopping pattern inherently means both time and frequency], wherein said routine transmissions and said urgent transmissions are transmitted at varied transmissions frequencies **[there are different assigned frequencies for hopping between the master base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as different assigned frequencies between other base-stations (e.g., col. 9, line 65 to col. 10, line 14)]**; and said receiver further comprises a frequency selective circuit for receiving said transmissions **[fig. 2, logic/circuit diagram for remote-unit receiver; col. 7, line 35 to col. 8, line 6; remote-unit receiver, col. 6, lines 11-12]**.

13. With regard to claim 37, Schilling discloses the, in operation, for each of said plurality of transmitters, said receiver changes frequency of said selective circuit to said expected frequency of said at least one transmission opportunity to receive and demodulate, when it occurs, at least one urgent transmission **[if the remote-unit receives the signal strength pilot signals, indicating power levels, from all the base-stations, it may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations uses pseudo-random, table lookup for frequency selection, col. 5, lines 32-34) in order to prevent intercellular interference (col. 7, lines 8-15) when the remote-unit is given permission to access the new base-station. Thus, a new frequency-hopping pattern inherently means both time and frequency]**.

14. With regard to claim 45, Schilling discloses that each of said plurality of transmitters controls transmission frequency and time according to a frequency-time sequence that is different for each of said plurality of transmitters **[there are different assigned frequencies for hopping between the master base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as different assigned frequencies between other base-stations (e.g., col. 9, line 65 to col. 10, line 14)]**.

15. With regard to claim 47, Schilling discloses that for each of said plurality of transmitters varies frequency for said routine transmissions and said transmission opportunities **[there are different assigned frequencies for hopping between the master base-station and the remote-unit (i.e., they can be changed within a base station cell, col. 12, lines 56-59), as well as different assigned frequencies between other base-stations (e.g., col. 9, line 65 to col. 10, line 14). If the remote-unit receives signal strength pilot signals, indicating power levels, from all the base-stations, it may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations use pseudo-random, table lookup for frequency selection, col. 5, lines 32-34) in order to prevent intercellular interference (col. 7, lines 8-15) <u>when</u> the remote-unit is given permission to access the new base-station.]**.

16. With regard to claims 41, 48 and 52-53, Schilling discloses that each of said plurality of transmitters **[base-station transmitters, col. 6, lines 11-12]** includes, in at least a portion of said routine transmissions, data indicative of a sequence for controlling at least one of: (a) frequency, and (b) time, for at least a portion of future transmission opportunities **[Since the base-station transmits synchronization data routinely (col. 6, lines 42-46), it is inherent that the synchronization is required for controlling all other transmission opportunities in respect to both frequency and time. For example, synchronization between the base stations is required (col. 8, lines 7-9) in order for the remote-unit to receive the signal strength pilot signals, indicating power levels, from all the base-stations, so that it may effect handoff (col. 12, lines 63-67), wherein, after a handoff request from the receiver-unit (based on its power threshold), the new base-station controls the set of frequencies used within the base-station's cell (the base-stations use pseudo-random, table lookup for frequency selection, col. 5, lines 32-34) in order to prevent intercellular interference (col. 7, lines 8-15) when the remote-unit is given permission to access the new base-station. Thus, a new frequency-hopping pattern inherently means both time and frequency]**.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling, as applied to claims 25-38 and 40-53 above, further in view of Haartsen (USP 6,389,057).

19. With regard to claim 39, Schilling does not specifically disclose that the receiver detects a difference between an actual and an expected transmission time of said routine transmissions, wherein the receiver utilizes the difference to determine an expected time of a future transmission opportunity. Schilling addresses power issues associated with a receiver in a wireless frequency-hopping CDMA (FH-CDMA) system **[forward power control, col. 10, lines 15-57, and reverse power control, col. 10, line 58 to col. 11, line 60]**, which clearly affects the power consumption of the remote-unit. One of the features of a hybrid FH-CDMA system are the power-saving features in maintaining constant power levels for reception and transmission **[for example, Hakkinen et al. (USP 6,567,459), col. 1, line 50 to col. 2, line 28]**. Haartsen further discloses power savings in terms allowing the remote-unit to go to standby mode and monitor a paging channel **[col. 2, lines 36-48]**. The standby mode causes a potential discrepancy in the synchronization between the remote-unit and the base-station **[col. 6, lines 9-30]**, which

causes a call-setup delay **[col. 6, lines 51-52]**. Haartsen uses the difference between the estimate of the actual time and the expected time, based on a previous connection, to determine the synchronization for connection using frequency-hopping **[col. 8, line65 to col. 9, line 50]**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the two FH-CDMA hybrid systems in order to attain the power savings in terms of transmission, reception, and standby mode for both battery power and spectral & signal strength efficiency.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

(a) Korpeda et al. (USP 6,778,521), Method for using effectively the broadcast capacity in a cell.

(b) Noll Barreto et al. (USP 6,223,048), Method of generating a frequency-hopping sequence for radio communication, as well as radio facility and radio system therefor.

(c) Gerten et al. (USP 6,760,319), Fixed frequency interference avoidance enhancement.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A Mais whose telephone number is (571) 272-3138. The examiner can normally be reached on 8:00-4:30.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 29, 2004